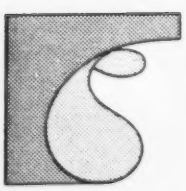
PRIVATE-SECTOR CONSTRUCTION IN BANFF, JASPER AND WATERTON NATIONAL PARKS IN ALBERTA:

ECONOMIC IMPACTS



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PRIVATE-SECTOR CONSTRUCTION IN BANFF, JASPER AND WATERTON NATIONAL PARKS IN ALBERTA:

ECONOMIC IMPACTS

prepared for

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EXECUTIVE SUMMARY

In the past five years there has been extensive private-sector development of visitor services and facilities in Banff, Jasper and Waterton national parks. The extent of this development and the resulting impacts on the Alberta economy are examined in this report.

The Extent of Private-Sector Development

A review of building permits shows that the total value of private-sector construction projects in Banff, Jasper and Waterton parks amounted to $125.9 million in 1988 dollars during the five fiscal years from 1984-85 to 1988-89. During the peak year of 1986-87, private-sector spending reached $45.5 million. Ninety-four percent of this construction occurred in Banff National Park while the value of construction in Waterton National Park accounted for only 0.4 percent of the total.

On a per-capita basis, the amount of commercial construction in Banff from 1985 through 1987 was almost 10 times larger than the Alberta average, based on the value of building permits issued in each community. Commercial development in Waterton and Jasper was also above average, while residential development on a per-capita basis was higher in Banff and Waterton, but very low in Jasper.

The Impacts of Private-Sector Development

Further analysis shows the impact of this park-induced, private-sector development in the mountain parks during the last five fiscal years generated $76.4 million in labour income and provided 2,695.9 person-years of employment. This spending increased Alberta's Gross Domestic Product (GDP) by $106.2 million or about 0.5 percent of total GDP generated by residential and non-residential construction activities in the province.

The direct benefits to Alberta's construction industry included 1,325.8 person-years of direct employment and $44.2 million in labour income. Spending on these construction projects also created a quantifiable "ripple" effect in other sectors of the Alberta economy. Purchases of construction materials and services combined with spending by the construction workforce generated an additional $32.2 million of labour income and 1,370.2 person-years of employment.

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1.0 INTRODUCTION

Since Banff National Park was established on November 25, 1885, Canadians and foreign visitors have benefited from park development in the mountains of Alberta. These benefits are typically perceived in terms of the wilderness and recreational opportunities available, with a corresponding emphasis on protection of these resources for the enjoyment of future generations.

For Albertans, the national parks offer another type of benefit. Federal government spending on park facilities and spending by visitors to the national parks provide an important source of employment and income for both the construction and service sectors of the Alberta economy. In Banff, Jasper and Waterton, there has also been considerable private-sector development of commercial facilities to serve park visitors. This development has, in turn, had an important impact on the provincial economy.

In recent years, the Canadian Parks Service has undertaken several studies to assess the economic impacts that development of the mountain parks has had on the Alberta economy. In the early 1980's, for example, a method was developed to assess the economic impacts that have resulted from capital spending by the Canadian Parks Service. While the resulting impact information clearly demonstrated the economic importance of Banff, Jasper and Waterton parks, this approach provided only a partial estimate of benefits to the Alberta economy.

One very important component of overall development within parks - namely, construction projects undertaken by the private sector - has been excluded from the previous evaluations. This park-induced spending by the private sector has been significant in recent years. The Canadian Parks Service has commissioned this study to determine how significant these impacts were on the Alberta economy.

The two primary objectives of the study are:

- to contribute to the development of a methodology to assess the impact of private-sector spending; and,
- to contribute to the evaluation of the economic significance of Alberta national parks to the economy of the province.

To address these objectives, this study examines private-sector development within Banff, Jasper and Waterton national parks over the last five fiscal years from 1984-85 to 1988-89. The impacts of this spending on the Alberta economy have been determined in terms of the increases in provincial employment, gross domestic product (GDP) and labour income resulting from the construction of these private-sector projects.

The rest of this report is presented in five sections. The methodology and information sources used to assess the economic impacts of private-sector spending is described in Section 2.0. It includes a number of important assumptions about which types of spending are applicable. Sections 3.0 through 5.0 present the extent and impacts of private-sector construction in each of Banff National Park, Jasper National Park and Waterton National Park. A summary of the overall findings of the analysis are provided in Section 6.0, which includes an assessment of the limitations of the methodology.

2.0 INFORMATION SOURCES AND METHODOLOGY

This study essentially consisted of two major tasks. The first was to assemble information which summarized the extent of private-sector construction spending within each of the three parks. While data on the value of building permits issued was a suitable source of expenditure information, some modification and interpretation of this data was required.

The second task was to assess the economic impacts of this spending. This was accomplished by using provincial multipliers derived from federal "input-output models" to estimate the increases in provincial labour income, GDP, and employment that have resulted from these expenditures.

2.1 Private Sector Construction

Data on the annual value of building permits issued in each of the three national parks is collected by Canadian Parks Service staff in Banff, Jasper and Waterton, and monthly summaries are provided to Statistics Canada which then provides annual summaries on a calendar-year basis. For these summaries, the value of building permits is separated into three categories:

- residential, which includes new construction and renovations of single and multiple family dwellings owned by individuals or corporations;
- commercial, which includes hotels, restaurants, retail outlets and small-scale industrial development undertaken by the private sector; and,
- other, which includes expenditures on housing or other community infrastructure by the Canadian Parks Service, other federal and provincial government agencies, churches and utilities.

The first step was to convert the calendar-year summaries of building permit data into fiscal-year summaries. Monthly building-permit summaries provided by Canadian Parks Service staff in the Banff, Jasper and Waterton townsite offices were reviewed and grouped according to fiscal years, April 1 through March 31. Given the timing of the study, the estimates for the 1988-89 fiscal year may not be entirely accurate because any permits issued after March 9 and before March 31 have not been included.

The second step was to determine which types of private-sector construction could be attibuted to increased economic activity by the Canadian Parks Service. For purposes of this study, the definition of park-induced, private-sector development employed the following assumptions:

1) Only residential projects with a value of more than $25,000 were included. Projects costing less typically involved the construction of garages, fences or house renovations that occur naturally within any community. Residential projects costing more than $25,000 usually involved the construction of new dwellings or major renovations to existing structures. While such construction also occurs naturally in all communities, Banff, Jasper and Waterton require that staff accommodation be provided for any new commercial development within the townsite. Thus, much of the new residential construction can be considered as park-induced development.

2) All spending on commercial projects was included. While some commercial development occurs in any community, it was impossible to distinguish between normal and park-induced commercial development, so all commercial construction was included.

3) Spending on projects undertaken by either the federal or provincial governments were not considered because they were outside the scope of this study or because these facilities often included infrastructure and utilities that are essential to the development of any community.

The next step was to separate construction projects in each park into individual components, based on geographical location or the type of development.

In Banff National Park, for example, extensive development occurred in Lake Louise townsite and at the Lake Louise and Sunshine Village ski areas. Building permit data for Jasper included development at the Columbia Icefields and at the Marmot Basin ski area. By reviewing the details of the building permits, development within the townsites was differentiated from construction projects elsewhere, so that the economic impacts associated with townsite development could be assessed apart from the economic impacts of development at other park locations.

2.2 Economic Multipliers

A key concept in the measurement of economic impacts for private-sector construction within the mountain parks is the use of economic multipliers. Multipliers are used to estimate the extent to which initial spending on construction projects generates secondary benefits within a provincial or regional economy. These secondary benefits occur when:

- the purchases of goods and services required for construction projects generate income and employment in industries within the province which produce those goods and services; and,

- the project labour force spends a portion of their income within the province, thereby generating additional labour income, a portion of which is again spent within the provincial economy.

Thus, the injection of money into a construction project creates a "ripple" effect within the provincial economy. The economic multiplier describes the cumulative effect of these ripples in relation to the size of the original expenditure.

The size of an economic multiplier is largely dependent on the degree to which provinces or regions are self-sufficient in producing all the goods and services required for economic development. Imports of such goods and services from other regions represent "leakages" which reduce the size of the multiplier effect. These leakages tend to increase as the size of an economic region decreases, so that provincial multipliers are always larger than regional multipliers.

There are several different methods of estimating economic multipliers. The most sophisticated employs "input-output" tables which define the extent to which various sectors or industries within a provincial or national economy are inter-related. It is then possible to trace the effect of any increase in spending in one industry on the other sectors of the economy.

Statistics Canada has developed an input-output model of the economy for Canada and the individual provinces. The most recent version is based on 1979 data, but is still considered reasonably valid because the overall structure of the national economy has remained largely unchanged, even though price levels have increased substantially in the last decade. The Alberta Bureau of Statistics has also developed an input-output model of the Alberta economy, but this model is also based on 1979 data from Statistics Canada.

In selecting the appropriate multipliers for the Alberta construction industry, both the Statistics Canada and Alberta Bureau of Statistics models were considered. The appropriate multipliers from each source are provided in Table 1. While the total multipliers for each type of impact are very similar, the data from the Statistics Canada model were developed for the Canadian Parks Service and distinguish between residential and non-residential construction. On the other hand, the multipliers determined by the Alberta Bureau of Statistics apply to the provincial construction industry as a whole, including residential, non-residential and other types of construction as well. Given the level of detail available from the building permit data, it was decided to use the multipliers developed from the Statistics Canada model.

According to Table 1, 32 cents of every dollar spent on residential construction in Alberta is spent directly on labour, and the rest is used to purchase construction materials or is retained as profits. The multiplier effect then generates an additional 24 cents of labour income in other sectors of the provincial economy. Thus, 56 cents of every construction dollar generates labour income within Alberta.

Table 1

MULTIPLIERS FOR THE CONSTRUCTION INDUSTRY IN ALBERTA
(Based on 1979 Data)

Calendar Year		Residential Construction	Non-residential Construction
Statistics Canada[1]:			
Labour Income:	Direct	0.32	0.36
	Total	0.56	0.62
GDP:	Direct	0.39	0.40
	Total	0.82	0.85
Employment per $10,000:	Direct	0.11	0.14
	Total	0.24	0.28
Alberta Bureau of Statistics[2]:			
Labour Income:		0.636	
GDP:		0.911	
Employment per $10,000:		0.325	

1 As detailed in tables 2 and 3 of Evaluation of the Economic Impact of Capital Projects Using the Statistics Canada Interprovincial Input-Output Model, Socio-Economic Branch, Evaluation and Analysis Division. October 1984.

2 As provided in Table 6 of Economic Multipliers for Alberta Industries and Commodities, Alberta Bureau of Statistics. November, 1987.

It is worth noting that since 1979, the effects of inflation have eroded the purchasing power - in terms of both goods and labour - of the dollar so that the cost of construction is higher today than a decade ago. Since the employment multiplier describes person-years of employment per $10,000 of investment in 1979, it is necessary to make adjustments to the value of construction before applying the multiplier. These adjustments are made using the implicit price index for Gross Domestic Product, particularly residential and non-residential construction.

A summary of the appropriate indexes for both Canada and Alberta are in Table 2. Because the Statistics Canada estimates are based on an average of indexes in only Calgary and Edmonton, the Alberta index was selected because it includes construction price information for smaller Alberta communities. Thus, in Alberta, the effects of new residential construction in 1987 would have produced only about 85 percent of the employment impacts that would have been generated by the same level of construction spending in 1979. In comparison, the employment impacts for Canada in 1987 would only have been about 62 percent of the corresponding impacts in 1979. When using these indexes, no allowance has been made for the differences between fiscal years and calendar years, but this will have only a minor effect on the calculation of employment impacts.

The price indexes in Table 2 have also been used to convert historic spending to 1988 dollar equivalents. The index shows, for example, that it would cost about 16 percent more to build a house in 1988 than in 1985. All value estimates in this report are shown in 1988 dollars. However, an actual record of the building permit is provided in Appendix 1.

Table 2

IMPLICIT PRICE INDEXES - GROSS DOMESTIC PRODUCT
(1981 = 1.000)

Calendar Year	Residential Construction		Non-residential Construction	
	Canada[1]	Alberta[2]	Canada[1]	Alberta[2]
1979	83.3	82.5	80.1	82.3
1981	100.0	100.0	100.0	100.0
1982	102.2	99.3	107.7	106.4
1983	105.9	92.4	107.0	104.9
1984	110.3	86.6	110.8	104.3
1985	113.5	86.2	114.3	108.4
1986	122.3	92.7	115.8	105.4
1987	133.5	97.1	120.3	101.8
1988	142.4	100.2[3]	126.4	105.4[4]

1 Statistics Canada, 1989. Canadian Economic Observer.

2 Alberta Bureau of Statistics, 1989. Alberta Economic Accounts 1987.

3 Estimated using linear regression for period from 1984-1987.

4 Estimated using linear regression for period from 1981-1987.

3.0 BANFF NATIONAL PARK

In the past few years, there has been considerable construction activity in Banff National Park by the Canadian Parks Service and by the private sector, and the rate of this development is generally accelerating.

3.1 Extent of Private Sector Construction

Table 3 summarizes the total value of building permits issued in Banff National Park during the calendar years 1980 to 1989. The table shows that the value of construction in recent years has been nearly double that of the years between 1981 and 1985. For the ten-year period, the total value of building permits amounted to $230.3 million, of which 18.2 percent was residential construction, 54.4 percent was commercial construction and the rest (27.4 percent) consisted of various other construction projects, mainly public-sector development and community infrastructure.

Table 3

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN BANFF NATIONAL PARK, 1980-1988
(1988 Dollars, Thousands)

Year	Residential	Commercial	Other	Total
1989[1]	$1,299.4	$1,153.7	$398.9	$2,852.0
1988	7,229.0	8,291.0	12,900.0	28,420.0
1987	8,820.4	45,169.3	7,355.2	61,344.9
1986	3,198.4	28,536.8	16,763.3	48,498.5
1985	2,100.7	5,597.1	540.6	8,238.4
1984	5,353.5	5,615.7	2,151.5	13,120.7
1983	840.1	6,107.3	10,343.6	17,290.9
1982	421.9	6,307.3	9,295.6	16,024.8
1981	5,524.2	5,401.8	908.5	11,834.5
1980	7,008.4	13,221.0	2,487.0	22,716.4
TOTAL	$41,796.0	$125,400.9	$63,144.2	$230,341.0

1 January to March.

To assess the economic impacts of this spending, it was necessary to convert the building permit data into fiscal years from 1984-85 to 1988-89. The resulting estimates of the annual value of construction during these five fiscal years are in Table 4 and amount to $159.3 million.

Table 4

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN BANFF NATIONAL PARK, FISCAL YEAR 1984-85 to 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Residential	Commercial	Other	Total
1988-89	$8,320.0	$8,741.0	$13,312.0[1]	$30,373.0
1987-88	8,698.7	30,775.1	7,355.2[2]	46,829.0
1986-87	3,913.4	40,661.3	5,285.4	49,860.1
1985-86	951.1	6,580.9	11,603.7	19,135.7
1984-85	4,609.8	6,452.6	2,055.5	13,117.9
TOTAL	$26,493.0	$93,210.9	$39,611.8	$159,315.7

1 Includes expenditures of $10.6 million for a new sewage treatment plant, $2.3 million of the Lake Louise Visitor Reception Centre, $400,000 for a senior citizens' complex developed by the Government of Alberta, and $12,000 for facilities for TransAlta Utilities Ltd.

2 Details of the other projects undertaken in fiscal years 1984-85 to 1987-88 were not available.

As described in Section 2.1, only part of total spending is assumed to have been induced by park development. This was assumed to consist of all residential development in excess of $25,000 plus all commercial development; none of the "other" category of development was considered to be directly induced by the park.

After these adjustments were made to the building permit information, the total value of park-induced, private-sector development was $118.8 million (1988$) over the last five fiscal years, or about 74.8 percent of the total value of all building permits issued during this period. Table 5 contains estimates of these park-induced, private-sector expenditures for each fiscal year. Based on this data, commercial development accounted for about 78.5 percent of total private sector construction.

Within the commercial sector, the vast majority of private-sector development in Banff National Park was undertaken by CP Hotels. With upgrading

of the Banff Springs Hotel and Chateau Lake Louise plus other development within the townsite, CP Hotels spent $47.0 million between 1984-85 and 1988-89. This accounted for 51 percent of all commercial construction activities in the park during this period.

In Banff National Park, three types of private-sector development occurred. Most development - 64.0 percent of total cost - was in and around Banff townsite. Private-sector development within the village of Lake Louise accounted for another 32.1 percent. The remaining 3.9 percent was undertaken by Sunshine Village and Lake Louise ski areas. An annual breakdown of expenditures among these three categories is in Table 6.

Table 5

VALUE OF ALL PARK-INDUCED, PRIVATE-SECTOR CONSTRUCTION IN BANFF NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Residential Construction	Commercial Construction	Total
1988-89	$8,287.0[1]	$8,741.0[4]	$17,028.0
1987-88	8,414.8[2]	30,775.1[5]	39,190.0
1986-87	3,442.7	40,661.3[6]	44,104.0
1985-86	910.2	6,580.9[7]	7,491.0
1984-85	4,540.4[3]	6,452.6	10,993.0
TOTAL	$25,595.1	$93,210.9	$118,806.0

1 Includes $1,816,000 at Lake Louise.
2 Includes $304,400 at Lake Louise and $206,400 by Skiing Louise.
3 Includes $900,200 at Lake Louise and $2,781,500 by Skiing Louise.
4 Includes $555,000 at Lake Louise, $30,000 by Skiing Louise and $1,601,000 at Sunshine.
5 Includes $15,789,300 at Lake Louise.
6 Includes $17,088,170 at Lake Louise.
7 Includes $1,717,900 at Lake Louise.

Table 6

NATURE OF PARK-INDUCED, PRIVATE-SECTOR CONSTRUCTION IN BANFF NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Banff Townsite	Lake Louise	Ski Areas	Total
1988-89	$13,026.0	$2,371.0	$1,631.0	$17,028.0
1987-88	22,889.9	16,093.7	206.4	39,190.0
1986-87	27,015.8	17,088.2	0	44,104.0
1985-86	5,838.0	1,653.0	0	7,491.0
1984-85	7,311.3	900.2	2,781.5	10,993.0
TOTAL	$76,081.0	$38,106.1	$4,618.9	$118,806.0

3.2 Impacts of Construction Spending

The economic impacts resulting from park-induced private-sector construction in Banff National Park during the last five fiscal years are summarized in Table 7 according to the type of construction (residential vs. non-residential), and the type of impact (direct and total). These impacts have been calculated using the various multipliers provided in Table 1 and are shown in current dollars.

For the five fiscal years from 1984-85 to 1988-89, total private-sector construction spending amounted to about $118.8 million. The direct effect was to provide $41.7 million in labour income and 1,250.7 person-years of employment in the construction industry. Through the multiplier effect, an additional 1,292.7 person-years of employment and $30.4 million in labour income were generated in other sectors of the economy.

Thus, the overall effect of park-induced construction activities in Banff National Park was to produce $72.1 million in labour income and 2,543.4 person-years of employment. These impacts effectively increased provincial gross domestic product by about $100.2 million over the five years.

Non-residential construction accounted for 78.5 percent of all development in the park and, accordingly, generated most of the economic

Table 7

ECONOMIC IMPACTS OF PARK-INDUCED CONSTRUCTION IN BANFF NATIONAL PARK, 1984-85 TO 1988-89,
BY TYPE OF CONSTRUCTION
(1988 Dollars, Thousands)

Nature of Economic Impact	Residential Construction		Non-Residential Construction		Total Construction	
	Direct	Total	Direct	Total	Direct	Total
Labour Income:						
1988-89	$2,651.8	$4,640.7	$3,146.8	$5,419.4	$5,798.6	$10,060.1
1987-88	2,692.7	4,712.3	11,079.0	19,080.5	13,771.7	23,792.8
1986-87	1,101.7	1,927.9	14,638.1	25,210.0	15,739.7	27,137.9
1985-86	291.3	509.7	2,369.1	4,080.1	2,660.4	4,589.8
1984-85	1,452.9	2,542.6	2,322.9	4,000.7	3,775.9	6,543.3
Total	$8,190.4	$14,333.2	$33,555.9	$57,790.7	$41,746.3	$72,123.9
Gross Domestic Product:						
1988-89	$3,231.9	$6,795.3	$3,496.4	$7,429.9	$6,728.3	$14,225.2
1987-88	3,281.8	6,900.1	12,310.0	26,158.8	15,591.8	33,058.9
1986-87	1,342.6	2,823.0	16,264.5	34,562.1	17,607.2	37,385.1
1985-86	355.0	746.4	2,632.3	5,593.7	2,987.3	6,340.1
1984-85	1,770.7	3,723.1	2,581.1	5,484.7	4,351.8	9,207.8
Total	$9,982.0	$20,987.9	$37,284.3	$79,229.2	$47,266.4	$100,217.1
Employment (person-years):						
1988-89	75.0	163.7	95.6	191.1	170.6	354.8
1987-88	76.2	166.3	336.3	672.5	412.5	838.8
1986-87	31.2	68.0	444.6	889.2	475.8	957.2
1985-86	8.3	18.0	71.9	143.8	80.2	161.8
1984-85	41.1	89.7	70.5	141.1	111.6	230.8
Total	231.8	505.7	1,018.9	2,037.7	1,250.7	2,543.4

impact. The construction and renovation of commercial buildings, including restaurants, hotels and retail outlets, generated estimated total impacts of $57.8 million in labour income, 2,037.7 person-years of employment and $79.2 million in provincial GDP during the five fiscal years. The corresponding impacts of residential construction within Banff National Park were much smaller: only $14.3 million in labour income, 505.7 person-years of employment and an increase in provincial GDP of $21.0 million.

An assessment of the economic impacts associated with each of the three major types of development within Banff National Park is provided in tables 8, 9 and 10. Table 10 shows that private-sector development within the Banff townsite generated about $46.0 million in labour income and 1,622.1 person-years of employment over the five-year period. The provincial GDP impacts from townsite development amounted to $64.1 million. This represents about 64 percent of the total GDP impacts generated by private sector development in Banff National Park.

Table 8

ECONOMIC IMPACTS OF PARK-INDUCED CONSTRUCTION IN BANFF TOWNSITE, 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Labour Income	Provincial GDP	Employment (Person-Years)
1988-89	$7,687.9	$10,878.0	271.2
1987-88	13,717.4	19,219.2	483.7
1986-87	16,543.2	22,860.1	583.5
1985-86	3,565.0	4,935.1	125.7
1984-85	4,481.5	6,188.8	158.0
Total	$45,995.0	$64,081.2	1,622.1

About 32.1 percent of all private-sector development in Banff National Park occurred at Lake Louise. The economic impacts resulting from these construction expenditures are detailed in Table 9. For the five-year period, provincial labour benefits generated by construction at Lake Louise amounted to $23.4 million in income and 826.7 person-years of employment.

Table 9

ECONOMIC IMPACTS OF PARK-INDUCED CONSTRUCTION IN LAKE LOUISE, 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Labour Income	Provincial GDP	Employment (Person-Years)
1988-89	$1,361.1	$1,960.9	48.0
1987-88	9,959.8	13,670.5	351.0
1986-87	10,594.7	14,524.9	373.7
1985-86	1,024.8	1,405.0	36.2
1984-85	504.1	738.1	17.8
Total	$23,444.5	$32,299.4	826.7

The Sunshine and Lake Louise ski resorts completed both residential and non-residential construction projects in 1984-85 to 1988-89. The economic impacts are detailed in Table 10.

Table 10

ECONOMIC IMPACTS OF CONSTRUCTION BY THE SKI AREAS IN BANFF NATIONAL PARK, 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Labour Income	Provincial GDP	Employment (Person-Years)
1988-89	$1,011.2	$1,386.3	35.6
1987-88	115.6	169.2	4.1
1986-87	0	0	0
1985-86	0	0	0
1984-85	1,557.6	2,280.9	55.0
Total	$2,684.4	$3,836.4	94.7

4.0 JASPER NATIONAL PARK

The level of construction activity in Jasper National Park during the last five years has been substantially below that of Banff National Park. Building permit information indicates that the private sector spent only about one dollar in Jasper for every $20 spent in Banff.

4.1 Extent of Private Sector Construction

Table 11 is a summary of the total value of building permits issued in Jasper National Parks between 1984 and 1989. There has been considerable year-to-year variation in the amount of total building activity. While the level of residential construction has remained reasonably consistent, the value of commercial building permits has ranged from $312,000 to $2.7 million. Public sector developments, such as schools and hospitals, have been very large in some years and non-existent in others. For the entire period shown, residential construction accounted for about $1.6 million or 14.0 percent of the total value of building permits issued in Jasper National Park. Commercial construction projects accounted for 45.9 percent of this total while public sector development and community infrastructure accounted for the remaining 40.1 percent.

Table 11

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN JASPER NATIONAL PARK, 1984 TO 1988
(1988 Dollars, Thousands)

Year	Residential	Commercial	Other	Total
1989[1]	$14.5	$0	$0	$14.5
1988	422.0	2,672.0	3,188.5	6,282.5
1987	256.9	1,129.4	0	1,386.3
1986	326.4	411.0	0	737.4
1985	269.2	873.3	77.8	1,220.3
1984[2]	354.3	315.3	1,459.2	2,128.8
Total	$1,643.3	$5,401.0	$4,725.5	$11,769.8

1 January to March.
2 April to December.

Table 12

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN JASPER NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Residential	Commercial	Other	Total
1988-89	$217.0	$2,242.0	$3,188.5[1]	$5,647.5
1987-88	484.0	1,005.1	0	1,489.1
1986-87	326.4	861.0	0	1,187.4
1985-86	235.5	515.3	0	750.8
1984-85	387.8	788.4	1,540.1[2]	2,716.3
Total	$1,650.7	$5,411.9	$4,728.6	$11,791.2

1 Includes $2,055,000 for an aquatic centre at the school, $1,016,000 for school renovations and $117,500 for hospital renovations.
2 Includes $1,449,100 for development at Miette Hot Springs plus $90,900 for church renovations.

The distribution of building permit data among fiscal years is presented in Table 12. The table shows that nearly half of all building in the last five fiscal years - 47.8 percent or $5.6 million - occurred in 1988-89. This was due to a large amount of commercial development. The balance of building activity in Jasper was distributed fairly evenly over the previous four years. As noted in Table 12, the public-sector development which occurred in the last five years consisted of spending by the Canadian Parks Service at Miette Hot Springs plus construction of hospital, church and school facilities.

To determine the extent of private-sector development induced by the park, all "other" construction projects and all residential development of less than $25,000 have been excluded from the analysis (see Section 2.1). Based on these adjustments, the resulting total value was $6.6 million over the last five fiscal years, or about 56 percent of the total value of all building permits issued during this period.

Commercial development accounted for about 81.7 percent of total private-sector construction. This percentage is only slightly higher than the estimate for Banff National Park. Most commercial construction consisted of new restaurants or renovations to hotels and existing restaurants. No single company accounted for a significant component of commercial construction although several projects were undertaken at the Jasper Tramway.

The review of the building permit information showed that most new construction occurred within the Jasper townsite. The data did include some small construction projects undertaken at the Columbia Icefields and Marmot Basin ski area. The total value of private-sector construction within the townsite and at these other two locations is detailed in Table 14. About $6.1 million worth of construction occurred in Jasper townsite over the last five fiscal years; this represents about 92.6 percent of the total and includes all residential development activity undertaken within Jasper National Park. The corresponding spending at the Columbia Icefields amounted to only $104,900 (1.6 percent of the total) and $384,100 at Marmot Basin (5.8 percent); this consisted entirely of non-residential construction.

Table 13

VALUE OF ALL PARK-INDUCED, PRIVATE-SECTOR CONSTRUCTION IN JASPER NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89 (1988 Dollars, Thousands)

Fiscal Year	Residential Construction	Commercial Construction	Total
1988-89	$160.0	$2,240.2[1]	$2,400.2
1987-88	382.8	1,005.1[2]	1,387.9
1986-87	281.0	861.0	1,142.0
1985-86	180.2	515.3	695.5
1984-85	208.3	788.4[3]	996.7
Total	$1,212.3	$5,410.0	$6,622.3

1 Includes $10,000 at the Columbia Icefields.
2 Includes $384,100 at Marmot Basin and $41,400 at the Columbia Icefields.
3 Includes $45,500 at the Columbia Icefields.

Table 14

NATURE OF PARK-INDUCED, PRIVATE-SECTOR CONSTRUCTION IN JASPER NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89 (1988 Dollars, Thousands)

Fiscal Year	Jasper Townsite	Columbia Icefields	Marmot Basin	Total
1988-89	$2,382.2	$18.0	$0	$2,400.2
1987-88	962.4	41.4	384.1	1,387.9
1986-87	1,142.0	0	0	1,142.0
1985-86	695.5	0	0	695.5
1984-85	951.2	45.5	0	996.7
Total	$6,133.3	$104.9	$384.1	$6,622.3

4.2 Impacts of Construction Spending

The multipliers in Table 1 have been used to estimate the economic impacts of private-sector construction spending in Jasper National Park. The resulting estimates are summarized in Table 15, which shows direct and indirect impacts during each fiscal year according to the type of construction.

The table indicates that, of total private-sector construction expenditures of about $6.6 million over five years, about $2.3 million went directly to labour income in the construction industry, thereby creating about 70.1 person-years of direct employment. Through the multiplier effect, this spending created indirect and induced benefits of an additional $1.7 million of labour income and 72.1 person-years of employment in other sectors of the economy. Overall, the total impacts on the Alberta economy included labour income of $4.0 million, an increase in provincial GDP of about $5.6 million and 142.2 person-years of employment.

As noted earlier, residential construction comprised only a small part of private-sector development in Jasper National Park. The total value of residential construction amounted to just $1.2 million in the five fiscal years and, as noted in Table 15, the economic impacts resulting from residential construction were also quite small. Only $678,900 in labour income

Table 15

ECONOMIC IMPACTS OF PARK-INDUCED CONSTRUCTION IN JASPER NATIONAL PARK, 1984-85 TO 1988-89,
BY TYPE OF CONSTRUCTION
(1988 Dollars, Thousands)

Nature of Economic Impact	Residential Construction		Non-Residential Construction		Total Construction	
	Direct	Total	Direct	Total	Direct	Total
Labour Income:						
1988-89	$51.2	$89.6	$806.5	$1,388.9	$857.7	$1,478.5
1987-88	122.5	214.4	361.8	623.2	484.3	837.6
1986-87	89.9	157.4	310.0	533.8	399.9	691.2
1985-86	57.7	100.9	185.5	319.5	243.2	420.4
1984-85	66.6	116.6	283.8	488.9	350.5	605.5
Total	$387.9	$678.9	$1,947.6	$3,354.3	$2,335.6	$4,033.2
Gross Domestic Product:						
1988-89	$62.4	$131.2	$896.1	$1,904.2	$958.5	$2,035.4
1987-88	149.3	313.9	402.0	854.4	551.4	1,168.3
1986-87	109.6	230.5	344.4	731.8	454.0	962.3
1985-86	70.3	147.7	206.1	438.0	276.4	585.8
1984-85	81.2	170.8	315.4	670.2	396.6	840.9
Total	$472.8	$994.1	$2,164.0	$4,598.6	$2,636.9	$5,592.7
Employment (person-years):						
1988-89	1.4	3.2	24.5	49.0	25.9	52.2
1987-88	3.5	7.5	11.0	22.0	14.5	29.5
1986-87	2.6	5.6	9.4	18.8	12.0	24.4
1985-86	1.6	3.5	5.6	11.3	7.2	14.8
1984-85	1.9	4.1	8.6	17.2	10.5	21.3
Total	11.0	23.9	59.1	118.3	70.1	142.2

and about 24.0 person-years of employment were generated by residential construction. On the other hand, non-residential construction, including restaurants, hotels and retail space, created labour income of about $3.4 million and 118.3 person-years of employment.

Table 16

ECONOMIC IMPACTS OF PARK-INDUCED CONSTRUCTION IN JASPER TOWNSITE, 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Labour Income	Provincial GDP	Employment (Person-Years)
1988-89	$1,467.4	$2,020.1	51.8
1987-88	573.7	806.6	20.2
1986-87	691.2	962.3	24.4
1985-86	420.4	585.7	14.8
1984-85	577.3	802.3	20.4
Total	$3,730.0	$5,177.0	131.6

Table 16 provides an estimate of the economic impacts that private-sector construction has had in the Jasper townsite. Over the five-year period, these impacts included $3.7 million of labour income and 131.6 person-years of employment. Total impacts on provincial GDP amounted to $5.2 million which accounted for about 93 percent of the total impacts of private-sector development in Jasper National Park.

Table 17

ECONOMIC IMPACTS OF PARK-INDUCED CONSTRUCTION AT THE COLUMBIA ICEFIELDS, 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Labour Income	Provincial GDP	Employment (Person-Years)
1988-89	$11.2	$15.3	0.4
1987-88	25.6	35.2	0.9
1986-87	0	0	0
1985-86	0	0	0
1984-85	28.2	38.7	1.0
Total	$65.0	$89.2	2.3

The economic impacts generated by construction at the Columbia Icefields and at Marmot Basin during the last five years was very small in comparison, due to the small value of the construction projects. As shown in Table 17, development at the Columbia Icefields accounted for only $65,000 in labour benefits and $89,200 in provincial GDP over the five fiscal years.

Similarly, construction at Marmot Basin accounted for about 5.8 percent of total private sector development within Jasper National Park within the last five fiscal years. The economic impacts generated by this development are summarized in Table 18.

Table 18

ECONOMIC IMPACTS OF CONSTRUCTION AT THE MARMOT BASIN SKI AREA, 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Labour Income	Provincial GDP	Employment (Person-Years)
1988-89	$0	$0	0
1987-88	238.2	326.5	8.4
1986-87	0	0	0
1985-86	0	0	0
1984-85	0	0	0
Total	$238.2	$326.5	8.4

5.0 WATERTON NATIONAL PARK

Waterton National Park is quite distinct from Banff and Jasper parks in terms of both the numbers of visitors and the size of the local community. In 1987, for example, visitation at Waterton was equivalent to only one-quarter of the number of people who toured Jasper and only one-sixth the number of people who visited Banff. In terms of the local population, the 1986 census indicates only 119 residents of Waterton compared to more than 3,700 in Jasper and more that 5,100 in Banff. Given Waterton's much smaller size, it is not surprising that the amount of private-sector development in Waterton is considerably less than in the other parks.

5.1 Extent of Private-Sector Construction

Table 19 provides a summary of the total value of building permits issued in Waterton National Park between 1984 and 1989. The table shows considerable variation in building among years but, given the relatively small amount of construction that occured, any major project had a significant impact on the annual totals.

Table 19

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN WATERTON NATIONAL PARK, 1984 TO 1988
(1988 Dollars, Thousands)

Year	Residential	Commercial	Other	Total
1989[1]	$0	$4.0	$0	$4.0
1988	47.0	37.0	0	84.0
1987	102.1	7.2	19.1	128.4
1986	98.4	123.7	28.0	250.1
1985	0	136.3	0	136.3
1984[2]	0	0	0	0
Total	$247.5	$308.2	$47.1	$602.8

1 January to March.
2 April to December, data incomplete.

Overall, residential construction accounted for about 41.1 percent of building activity, commercial development comprised another 51.1 percent, while public-sector and institutional projects accounted for the remaining 7.8 percent.

As shown in Table 20, the distribution of building permit data among fiscal years suggests that building activity peaked in 1986-87 and has diminished since then. The value of construction activity in 1986-87 accounted for more than 40 percent of all development within the last five fiscal years, and was due mostly to commercial and other types of development.

Table 20

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN WATERTON NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Residential	Commercial	Other	Total
1988-89	$47.0	$35.0	$0	$82.0
1987-88	102.1	13.5	19.1[1]	134.7
1986-87	98.4	123.7	28.0[2]	250.1
1985-86	0	136.3	0	136.3
1984-85[3]	0	0	0	0
Total	$247.5	$308.5	$47.1	$595.3

1 Includes $19,100 for an immigration office at the Chief Mountain border crossing.
2 Includes $28,000 for a church camp.
3 Data incomplete.

Table 21 contains an estimate of the extent of private-sector development induced by the park. This excludes all "other" construction projects and all residential development of less than $25,000 (see Section 2.1). Over the five-year period, total park-induced, private-sector development in the park is estimated at $482,000 which represents about 81 percent of all building permits issued during this period. Residential construction accounted for about 36.0 percent of this total.

Table 21

VALUE OF ALL PARK-INDUCED, PRIVATE-SECTOR CONSTRUCTION IN WATERTON NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Residential Construction	Commercial Construction	Total
1988-89	$0	$35.0	$35.0
1987-88	92.7	13.5	106.2
1986-87	81.1	123.7	204.8
1985-86	0	136.3	136.3
1984-85[1]	0	0	0
Total	$173.8	$308.5	$482.3

5.2 Impacts of Construction Spending

Table 22 shows the impacts of park-induced, private-sector development in Waterton National Park for the five years from 1984-85 to 1988-89. It indicates this development provided about 5.0 person-years of direct employment and generated about $166,700 in labour income for the construction industry. The indirect and induced impacts resulting from this spending amounted to an additional 5.2 person-years of employment and $121,900 in additional labour income in other sectors of the provincial economy. The overall effect of private-sector development within Waterton National Park was to increase the Alberta gross provincial product by about $404,700 during the five-year period.

Table 22

ECONOMIC IMPACTS OF PARK-INDUCED CONSTRUCTION IN WATERTON NATIONAL PARK, 1984-85 TO 1988-89, BY TYPE OF CONSTRUCTION
(1988 Dollars, Thousands)

Nature of Economic Impact	Residential Construction		Non-Residential Construction		Total Construction	
	Direct	Total	Direct	Total	Direct	Total
Labour Income:						
1988-89	$0	$0	$12.6	$21.7	$12.6	$21.7
1987-88	29.7	51.9	4.8	8.3	34.5	60.2
1986-87	25.9	45.4	44.6	76.7	70.5	122.1
1985-86	0	0	49.1	84.6	49.1	84.6
1984-85	0	0	0	0	0	0
Total	$55.6	$97.3	$111.1	$191.3	$166.7	$288.6
Gross Domestic Product:						
1988-89	$0	$0	$14.0	$29.7	$14.0	$29.7
1987-88	36.1	76.0	5.4	11.4	41.5	87.4
1986-87	31.6	66.5	49.5	105.2	81.1	171.7
1985-86	0	0	54.5	115.9	54.5	115.9
1984-85	0	0	0	0	0	0
Total	$67.7	$142.5	$123.4	$262.2	$191.1	$404.7
Employment (person-years):						
1988-89	0.0	0.0	0.4	0.8	0.4	0.8
1987-88	0.9	1.8	0.1	0.3	1.0	2.1
1986-87	0.7	1.6	1.4	2.7	2.1	4.3
1985-86	0.0	0.0	1.5	3.0	1.5	3.0
1984-85	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.6	3.4	3.4	6.8	5.0	10.2

6.0 SUMMARY, LIMITATIONS AND CONCLUSIONS

In Banff, Jasper and Waterton national parks, there has recently been considerable development of visitor services and community infrastructure by both the public and private sectors. This development provided important benefits for Alberta in terms of direct employment and labour income during construction, the purchase of construction materials and services, plus economic spin-offs created by the multiplier effect. While previous studies undertaken by the Canadian Parks Service have assessed the extent of economic impacts resulting from their own development activities, the purpose of this study was to determine the extent to which park-induced development by the private sector has generated economic impacts within the Alberta economy.

6.1 Summary of Findings

Based on the assumptions outlined in Section 2.0 of this report, park-induced, private- sector construction in the national parks in the mountains of Alberta have had a substantial impact on the Alberta economy. During the past five fiscal years, it is estimated that the total value of private-sector construction projects in the parks was $125.9 million.

Table 23 shows that most of this construction - $118.8 million or 94 percent - occurred in Banff National Park while construction in Waterton National Park accounted for only 0.4 percent.

Table 23

TOTAL VALUE OF PARK-INDUCED PRIVATE SECTOR CONSTRUCTION IN THE NATIONAL PARKS IN ALBERTA, FISCAL YEAR 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Banff	Jasper	Waterton	Total
1988-89	$17,028.0	$2,400.2	$35.0	$19,463.2
1987-88	39,190.0	1,388.0	106.2	40,684.2
1986-87	44,104.0	1,142.0	204.8	45,450.8
1985-86	7,491.0	695.5	136.3	8,322.8
1984-85	10,993.0	996.7	0	11,989.7
TOTAL	$118,806.0	$6,622.4	$482.3	$125,910.7

The table also shows that 1986-87 was the peak year for construction activity within the mountain parks, with overall spending amounting to $45.5 million or 36 percent of the total.

An annual summary of the impacts that these construction projects had on the provincial economy is provided in Table 24. Table 25 contains a more detailed breakdown of these impacts in terms of both the direct and total impacts that resulted from each type of construction, residential and non-residential.

Table 24

TOTAL IMPACTS OF PARK-INDUCED PRIVATE SECTOR CONSTRUCTION IN THE NATIONAL PARKS IN ALBERTA, FISCAL YEAR 1984-85 TO 1988-89
(1988 Dollars, Thousands)

Fiscal Year	Labour Income	Provincial GDP	Employment (Person-Years)
1988-89	$11,560.4	$16,290.3	407.7
1987-88	24,690.6	34,314.6	870.5
1986-87	27,951.2	38,519.0	985.9
1985-86	5,094.8	7,041.8	179.6
1984-85	7,148.7	10,048.8	252.2
Total	$76,445.7	$106,214.5	2,695.9

Table 25 shows that total park-induced private sector development within the mountain parks generated direct impacts of $44.2 million in labour income and 1,325.7 person-years of employment in the Alberta construction industry. The purchases of construction materials and services plus spending by the construction workforce generated additional labour income of $32.2 million and 1,370.1 person-years of employment in other sectors of the provincial economy. Thus, total impacts amounted to $76.4 million in labour income and 2,695.9 person-years of employment.

Impacts on provincial GDP amounted to $106.2 million over the five-year period. During the peak 1986-87 year, the provincial GDP benefits generated by private-sector construction activities within the mountain parks accounted for about 0.5 percent of total provincial GDP generated by residential and non-residential construction.

Table 25

ECONOMIC IMPACTS OF PARK-INDUCED CONSTRUCTION IN THE NATIONAL PARKS IN ALBERTA, 1984-85 TO 1988-89, BY TYPE OF CONSTRUCTION
(1988 Dollars, Thousands)

Nature of Economic Impact	Residential Construction		Non-Residential Construction		Total Construction	
	Direct	Total	Direct	Total	Direct	Total
Labour Income:						
1988-89	$2,703.0	$4,730.3	$3,965.8	$6,830.8	$6,668.8	$11,560.4
1987-88	2,844.9	4,978.6	11,445.7	19,712.1	14,290.6	24,690.6
1986-87	1,217.5	2,130.7	14,992.6	25,820.5	16,210.1	27,951.2
1985-86	348.9	610.6	2,603.7	4,484.2	2,952.6	5,094.8
1984-85	1,519.6	2,659.2	2,606.8	4,489.5	4,126.4	7,148.7
Total	$8,633.9	$15,109.4	$35,614.6	$61,336.3	$44,248.5	$76,445.7
Gross Domestic Product:						
1988-89	$3,294.3	$6,926.5	$4,406.5	$9,363.8	$7,700.8	$16,290.3
1987-88	3,467.2	7,290.1	12,717.5	27,024.6	16,184.7	34,314.6
1986-87	1,483.9	3,119.9	16,658.4	35,399.1	18,142.3	38,519.0
1985-86	425.2	894.1	2,893.0	6,147.7	3,318.2	7,041.8
1984-85	1,852.0	3,893.9	2,896.4	6,154.9	4,748.4	10,048.8
Total	$10,522.6	$22,124.5	$39,571.8	$84,090.1	$50,094.4	$106,214.5
Employment (person-years):						
1988-89	76.5	166.8	120.4	240.9	196.9	407.7
1987-88	80.5	175.8	347.4	694.7	427.9	870.5
1986-87	34.5	75.2	455.4	910.7	489.8	985.9
1985-86	9.9	21.5	79.0	158.1	88.9	179.6
1984-85	43.0	93.9	79.2	158.3	122.2	252.2
Total	244.4	533.2	1,081.4	2,162.7	1,325.7	2,695.9

6.2 Limitations of the Assessment Methodology

While this study provides an estimate of the impacts of private-sector development in the national parks on the Alberta economy, the methodology used to develop these estimates was based on a number of critical assumptions. The implications of these assumptions place a number of limitations on how the results of the analysis can be used.

In preparing this impact assessment, it was assumed that park-induced, private-sector development consisted of all commercial construction plus residential construction projects in excess of $25,000. To some extent, these assumptions will tend to overestimate the value of park-induced expenditures and impacts because it is likely that some development would have occurred even if the areas had not been designated and developed as national parks.

It is difficult to speculate on the extent to which commercial and residential construction activities in Banff, Jasper and Waterton have been directly influenced by the park environment in which they are situated. To better understand this effect, the levels of building activity in Banff, Jasper and Waterton during the years 1985 to 1987 have been compared to the corresponding levels of construction activities in other Alberta communities of a similar size, as well as Edmonton and Calgary. These comparisons are in Table 26.

The table shows that in terms of all building permits issued, the overall level of development in Banff between 1985 and 1987 was three times higher than in any other community of a similar size and was nearly eight times greater than the corresponding levels of development in Calgary or Edmonton. It is interesting to note that Canmore, which is slightly smaller in size than Banff and also has a tourism-based economy, had the second highest level of overall per-capita development. The extent of per-capita development in Jasper was quite low, and proved to be only one-fifth that of Waterton which had only three percent of the population of Jasper.

Results based on total building activity within communities can be quite misleading, however, because large institutional or industrial projects can have a significant impact on the value of building permits issued. Thus, building permit data for residential and commercial development probably provide a more useful comparison of development within Banff, Jasper and Waterton to that of other Alberta communities. Nevertheless, even when institutional and industrial projects are added, the per-capita level of development in Banff was greater than for the other communities.

In terms of total residential development between 1985 and 1987, only two other Alberta communities reported more construction per-capita than occurred in Banff. The greatest amount of residential construction occurred in Canmore where the value of construction per-capita was 74 percent higher than in Banff. Jasper, on the other hand, had the third lowest level of per-capita residential construction of the 34 communities which were examined. For Waterton, the level of residential construction was above the overall average of about $388 per-capita for the 34 communities, but this may be due to Waterton's very small population.

6.3 Conclusions

Based on these comparisons, it can be concluded that the levels of residential construction in Banff are higher than normal, so that some portion of this development can be attributed to park development. This portion could be about 55 percent, based on the $907 reported for Banff and the overall average of about $388. For Jasper, the table suggests that the park environment may have had an adverse impact on residential construction. The results for Waterton are inconclusive because the population is much smaller than for the other communities, so that even small levels of development may be exaggerated.

In terms of per-capita commercial construction, the level of development in Banff between 1985 and 1987 proved to be about 15 times higher than the overall average of about $335 per-capita, and six times greater that the level of commercial development in the next most developed community which happened to be Canmore. This difference clearly shows that nearly all recent commercial development can be attributed to the parks program.

Table 26

COMPARISON OF AVERAGE ANNUAL PER-CAPITA CONSTRUCTION (1985-1987) FOR ALBERTA COMMUNITIES WITH POPULATIONS BETWEEN 3,000 AND 6,000 PLUS CALGARY AND EDMONTON [1]
(1988 Dollars)

	1986 Population	Total Construction Average Value Per-Capita		Residential Construction Average Value Per-Capita		Commercial Construction Average Value Per-Capita	
Edmonton	653,979	Banff	7,585	Canmore	1,581	Banff	5,094
Calgary	636,104	Canmore	2,555	Slave Lake	1,273	Canmore	823
Whitecourt	5,737	Slave Lake	2,311	Banff	907	Waterton	748
Innisfail	5,535	Stettler	1,796	Drayton Valley	809	Slave Lake	730
Ponoka	5,473	Vermilion	1,733	Bonnyville	593	St. Paul	584
Bonnyville	5,470	Whitecourt	1,732	Waterton	555	Edmonton	334
Slave Lake	5,429	St. Paul	1,722	Vermilion	550	Calgary	328
Drayton Valley	5,290	Claresholm	1,620	Beaumont	517	Rocky Mountain House	314
Vegreville	5,276	Drayton Valley	1,562	Coaldale	485	Drayton Valley	297
Okotoks	5,214	Waterton	1,437	Ponoka	449	Ponoka	277
Banff	5,189	Olds	1,319	Wainwright	441	Cochrane	243
Rocky Mountain House	5,182	Bonnyville	1,282	Westlock	433	Bonnyville	236
Stettler	5,147	Cochrane	1,121	Calgary	420	Jasper	215
High River	5,096	Ponoka	920	Whitecourt	377	Vermilion	204
St Paul	5,030	Calgary	919	Edmonton	352	Vegreville	189
Olds	4,871	Edmonton	895	Olds	350	Stettler	186
Coaldale	4,796	Vegreville	885	Stettler	332	Strathmore	180
Wainwright	4,665	Cardston	812	St. Paul	322	Westlock	176
Westlock	4,532	Strathmore	780	Cochrane	318	High River	165
Cochrane	4,184	Westlock	779	Barrhead	313	Olds	160
Canmore	4,182	Wainwright	744	Rocky Mountain House	289	Wainwright	157
Barrhead	3,991	Rocky Mountain House	737	Vegreville	269	Cardston	155
Beaumont	3,944	Beaumont	719	High River	254	Pincher Creek	121
Sylvan Lake	3,937	Innisfail	654	Hanna	238	Didsbury	119
Vermilion	3,879	Coaldale	617	Didsbury	233	Sylvan Lake	117
Pincher Creek	3,800	Didsbury	569	Claresholm	232	Hanna	115
Jasper	3,742	Devon	554	Innisfail	224	Claresholm	84
Devon	3,691	High River	526	Pincher Creek	195	Whitecourt	64
Grande Cache	3,590	Barrhead	448	Strathmore	195	Beaumont	59
Strathmore	3,544	Pincher Creek	439	Cardston	172	Coaldale	57
Cardston	3,497	Hanna	437	Devon	149	Innisfail	55
Claresholm	3,382	Jasper	298	Sylvan Lake	145	Barrhead	42
Didsbury	3,184	Sylvan Lake	264	Okotoks	118	Devon	37
Hanna	3,017	Grande Cache	120	Jasper	76	Grande Cache	20
High Level	3,004	Okotoks	118	Grande Cache	69	Okotoks	0
Waterton	119	High Level	0	High Level	0	High Level	0

1 The building permits values for 1985 to 1987 have been totaled, converted to 1988 dollars, averaged and divided by the 1986 population to obtain the annual average per-capita values shown. Building permits data obtained from Statistics Canada. Appendix 2 contains records of the actual building permit information used to create this table.

For Jasper, the value of per-capita commercial construction was about the same or slightly higher than in most other Alberta communities of the same size. If the very high levels of commercial construction in Banff, Canmore, Slave Lake and St. Paul are ignored, the average value of commercial development in the other 30 small communities was about $150 per person. Compared to this, levels of commercial development in Jasper were about 40 percent higher. Thus, the parks program seems to have had some impact on the levels of commercial development in Jasper.

The amount of per-capita commercial construction in Waterton has probably been exaggerated by the small population base for the community and it is difficult to find comparable building permit data for communities of a similar size. However, given that the per-capita level of development in Waterton was similar to that of Canmore, it is likely that the park environment has had some effect on the level of private-sector development in the community. This effect would appear to equivalent to at least 50 percent of the total value of commercial development and perhaps even more.

As described earlier, the estimated economic impacts of park-induced private sector development within the parks were assumed to include all commercial construction plus residential construction in excess of $25,000. However, the information in Table 26 suggests that a more accurate estimate of these impacts might include:

- 55 percent of residential construction and 90 percent of commercial construction activities in Banff National Park; and,
- 40 percent of commercial construction in Jasper National Park and Waterton National Park.

These percentages reflect the extent to which development in the mountain parks exceeds the corresponding levels of development in other Alberta communities of a similar size. If this approach is used, the total value of park-induced, private-sector expenditures over the last five fiscal years would be about $100 million rather than $126 million. The level of impacts on the Alberta economy would then be about 21 percent lower than has been estimated.

One other limitation of the analysis is that the importance of park development on private-sector construction has been measured only in terms of new construction during each of the five years. The size of this increment says nothing about the overall value of the existing capital facilities within the community. While the building permit data shows how the private-sector is responding to current demands for tourist facilities, there has been a long history of tourism-related development within each park, and this study has made no allowance for past development by the private sector. For this reason, a better understanding of the economic implications of the national parks program in Alberta might be obtained by comparing the municipal assessment value of development in Banff, Jasper and Waterton with the total assessment values in other Alberta communities.

APPENDIX 1

SUMMARY OF BUILDING PERMIT DATA FOR BANFF, JASPER AND WATERTON NATIONAL PARKS, 1984-85 TO 1988-89 (CURRENT DOLLARS)

Table 1.1

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN BANFF NATIONAL PARK, 1980-1988
(Current Dollars, Thousands)

Year	Residential	Commercial	Other	Total
1989[1]	$1,348.0	$1,157.0	$400.0	$2,905.0
1988	7,229.0	8,291.0	12,900.0	28,420.0
1987	8,547.5	43,626.5	7,104.0	59,278.0
1986	2,959.0	28,536.7	16,763.3	48,259.1
1985	1,807.2	5,756.4	556.0	8,119.6
1984	4,626.9	5,557.1	2,129.0	12,313.0
1983	774.7	6,078.2	10,294.5	17,147.5
1982	418.1	6,367.1	9,383.8	16,169.0
1981	5,513.2	5,125.0	862.0	11,500.2
1980	6,281.0	11,791.0	2,218.0	20,290.0

1 January to March.

Table 1.2

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN BANFF NATIONAL PARK, FISCAL YEAR 1984-85 to 1988-89
(Current Dollars, Thousands)

Fiscal Year	Residential	Commercial	Other	Total
1988-89	$8,320.0	$8,741.0	$13,312.0[1]	$30,373.0
1987-88	8,429.5	29,724.0	7,104.0[2]	44,707.5
1986-87	3,620.5	40,661.3	5,285.4	49,567.2
1985-86	818.2	6,768.2	11,934.0	19,520.4
1984-85	3,984.1	6,385.3	2,034.0	12,403.4

1 Includes expenditures of $10.6 million for a new sewage treatment plant, $2.3 million of the Lake Louise Visitor Reception Centre, $400,000 for a senior citizens' complex developed by the Government of Alberta, and $12,000 for facilities for TransAlta Utilities Ltd.

2 Details of the other projects undertaken in fiscal years 1984-85 to 1987-88 were not available.

Table 1.3

VALUE OF ALL PARK-INDUCED, PRIVATE-SECTOR CONSTRUCTION IN BANFF NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(Current Dollars, Thousands)

Fiscal Year	Residential	Commercial	Total
1988-89	$8,287.0[1]	$8,741.0[4]	$17,028.0
1987-88	8,154.5[2]	29,724.0[5]	37,878.5
1986-87	3,185.0	40,661.3[6]	43,846.3
1985-86	783.0	6,768.2[7]	7,551.2
1984-85	3,924.1[3]	6,385.3	10,309.4

1 Includes $1,816,000 at Lake Louise.
2 Includes $295,000 at Lake Louise and $200,000 by Skiing Louise.
3 Includes $778,000 at Lake Louise and $2,404,000 by Skiing Louise.
4 Includes $555,000 at Lake Louise, $30,000 by Skiing Louise and $1,601,000 at Sunshine.
5 Includes $15,250,000 at Lake Louise.
6 Includes $17,088,170 at Lake Louise.
7 Includes $1,700,000 at Lake Louise.

Table 1.4

NATURE OF PARK-INDUCED, PRIVATE-SECTOR CONSTRUCTION IN BANFF NATIONAL PARK,
FISCAL YEAR 1984-85 TO 1988-89
(Current Dollars, Thousands)

Fiscal Year	Banff Townsite	Lake Louise	Ski Areas	Total
1988-89	$13,026.0	$2,371.0	$1,631.0	$17,028.0
1987-88	22,133.5	15,545.0	200.0	37,878.5
1986-87	26,758.1	17,088.2	0	43,846.3
1985-86	5,851.2	1,700.0	0	7,551.2
1984-85	7,127.4	778.0	2,404.0	10,309.4

Table 1.5

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN JASPER NATIONAL PARK, 1984 TO 1988
(Current Dollars, Thousands)

Year	Residential	Commercial	Other	Total
1989[1]	$15.0	$0	$0	$15.0
1988	422.0	2,672.0	3,188.5	6,282.5
1987	249.0	1,090.8	0	1,339.8
1986	302.0	411.0	0	713.0
1985	231.6	898.2	80.0	1,209.8
19842	306.2	312.0	1,444.0	2,062.2

1 January to March.
2 April to December.

Table 1.6

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN JASPER NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(Current Dollars, Thousands)

Fiscal Year	Residential	Commercial	Other	Total
1988-89	$217.0	$2,242.0	$3,188.5[1]	$5,647.5
1987-88	469.0	970.8	0	1,439.8
1986-87	302.0	861.0	0	1,163.0
1985-86	202.6	530.0	0	732.6
1984-85	335.2	780.2	1,524.0[2]	2,639.4

1 Includes $2,055,000 for an aquatic centre at the school, $1,016,000 for school renovations and $117,500 for hospital renovations.
2 Includes $1,434,000 for development at Miette Hot Springs plus $90,000 for church renovations.

Table 1.7

VALUE OF ALL PARK-INDUCED, PRIVATE-SECTOR CONSTRUCTION IN JASPER NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(Thousands)

Fiscal Year	Residential	Commercial	Total
1988-89	$160.0	$2,240.2[1]	$2,400.2
1987-88	371.0	970.8[2]	1,341.8
1986-87	260.0	861.0	1,121.0
1985-86	155.0	530.0	685.0
1984-85	180.0	780.2[3]	960.2

1 Includes $18,000 at the Columbia Icefields.
2 Includes $371,000 at Harnot Basin and $40,000 at the Columbia Icefields.
3 Includes $45,000 at the Columbia Icefields.

Table 1.8

NATURE OF PARK-INDUCED PRIVATE SECTOR CONSTRUCTION IN JASPER NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(Current Dollars, Thousands)

Fiscal Year	Jasper Townsite	Columbia Icefields	Harnot Basin	Total
1988-89	$2,382.2	$18.0	$0	$2,400.2
1987-88	930.8	40.0	371.0	1,341.8
1986-87	1,121.0	0	0	1,121.0
1985-86	685.0	0	0	685.0
1984-85	915.2	45.0	0	960.2

Table 1.9

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN WATERTON NATIONAL PARK, 1984 TO 1988
(Current Dollars, Thousands)

Year	Residential	Commercial	Other	Total
1989[1]	$0	$4.0	$0	$4.0
1988	47.0	37.0	0	84.0
1987	99.0	7.0	18.4	124.4
1986	91.0	123.7	28.0	242.7
1985	0	140.2	0	140.2
1984[2]	0	0	0	0

1 January to March.
2 April to December, data incomplete.

Table 1.10

TOTAL VALUE OF ALL BUILDING PERMITS ISSUED IN WATERTON NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(Current Dollars, Thousands)

Fiscal Year	Residential	Commercial	Other	Total
1988-89	$47.0	$35.0	$0	$82.0
1987-88	99.0	13.0	18.4[1]	130.4
1986-87	91.0	123.7	28.0[2]	242.7
1985-86	0	140.2	0	140.2
1984-85[3]	0	0	0	0

1 Includes $18,440 for an immigration office at the Chief Mountain border crossing.
2 Includes $28,000 for a church camp.
3 Data incomplete.

Table 1.11

VALUE OF ALL PARK-INDUCED PRIVATE SECTOR CONSTRUCTION IN WATERTON NATIONAL PARK, FISCAL YEAR 1984-85 TO 1988-89
(Current Dollars, Thousands)

Fiscal Year	Residential	Commercial	Total
1988-89	$0	$35.0	$35.0
1987-88	89.0	13.0	102.0
1986-87	75.0	123.7	198.7
1985-86	0	140.3	140.3
1984-85[1]	0	0	0

APPENDIX 2

SUMMARY OF BUILDING PERMIT DATA (1985-1987) FOR ALBERTA COMMUNITIES WITH POPULATIONS BETWEEN 3,000 AND 6,000 PLUS CALGARY AND EDMONTON

Table 2.1

VALUE OF RESIDENTIAL BUILDING PERMITS (1985-1987) FOR ALBERTA COMMUNITIES WITH POPULATIONS BETWEEN 3,000 AND 6,000 PLUS CALGARY AND EDMONTON [1]
(1988 Dollars)

	Total Value of Residential Building Permits Issued					1986 Population	Value Per Capita
	1985	1986	1987	Total	Average		
	(Thousands)						
Canmore	4,210	5,316	10,308	19,834	6,611	4,182	1,581
Slave Lake	13,566	4,058	3,109	20,733	6,911	5,429	1,273
Banff	2,101	3,198	8,820	14,119	4,706	5,189	907
Drayton Valley	4,497	3,866	4,483	12,846	4,282	5,290	809
Bonnyville	7,568	1,330	840	9,738	3,246	5,470	593
Waterton	0	98	102	200	66	119	555
Vermilion	1,847	1,448	3,110	6,405	2,135	3,879	550
Beaumont	2,434	966	2,716	6,116	2,038	3,944	517
Coaldale	1,454	1,685	3,841	6,980	2,326	4,796	485
Ponoka	2,341	2,039	2,987	7,367	2,455	5,473	449
Wainwright	1,069	2,546	2,560	6,175	2,058	4,665	441
Westlock	1,620	1,740	2,520	5,880	1,960	4,532	433
Calgary	223,960	216,634	360,256	800,850	266,950	636,104	420
Whitecourt	978	1,612	3,891	6,481	2,160	5,737	377
Edmonton	233,225	208,819	249,190	691,234	230,411	653,979	352
Olds	1,652	1,375	2,095	5,122	1,707	4,871	350
Stettler	1,377	1,955	1,799	5,131	1,710	5,147	332
St. Paul	2,035	1,634	1,196	4,865	1,621	5,030	322
Cochrane	1,293	813	1,884	3,990	1,330	4,184	318
Barrhead	1,046	217	2,485	3,748	1,249	3,991	313
Rocky Mountain House	865	1,271	2,351	4,487	1,495	5,182	289
Vegreville	1,467	1,531	1,265	4,263	1,421	5,276	269
High River	1,023	1,375	1,485	3,883	1,294	5,096	254
Hanna	687	883	588	2,158	719	3,017	238
Didsbury	764	999	460	2,223	741	3,184	233
Claresholm	1,441	330	586	2,357	785	3,382	232
Innisfail	803	1,177	1,738	3,718	1,239	5,535	224
Pincher Creek	766	825	631	2,222	740	3,800	195
Strathmore	887	286	897	2,070	690	3,544	195
Cardston	534	805	470	1,809	603	3,497	172
Devon	299	543	804	1,646	548	3,691	149
Sylvan Lake	794	368	552	1,714	571	3,937	145
Okotoks	164	0	1,677	1,841	613	5,214	118
Jasper	269	326	257	852	284	3,742	76
Grande Cache	416	152	180	748	249	3,590	69
High Level	0	0	0	0	0	3,004	0
TOTAL	519,452	472,220	682,133	1,673,805	557,935	1,436,702	388

Table 2.2

VALUE OF COMMERCIAL BUILDING PERMITS (1985-1987) FOR ALBERTA COMMUNITIES WITH POPULATIONS BETWEEN 3,000 AND 6,000 PLUS CALGARY AND EDMONTON [1]
(1988 Dollars)

	Total Value of Commercial Building Permits Issued					1986 Population	Value Per Capita
	1985	1986	1987	Total	Average		
	(Thousands)						
Banff	5,597	28,537	45,169	79,303	26,434	5,189	5,094
Canmore	2,002	2,455	5,868	10,325	3,441	4,182	823
Waterton	136	124	7	267	89	119	748
Slave Lake	6,153	4,259	1,484	11,896	3,965	5,429	730
St. Paul	785	1,737	6,284	8,806	2,935	5,030	584
Edmonton	205,617	243,976	205,507	655,100	218,366	653,979	334
Calgary	129,105	248,118	247,863	625,086	208,362	636,104	328
Rocky Mountain House	1,103	1,728	2,052	4,883	1,627	5,182	314
Drayton Valley	1,504	1,668	1,534	4,706	1,568	5,290	297
Ponoka	1,133	1,703	1,719	4,555	1,518	5,473	277
Cochrane	111	1,987	954	3,052	1,017	4,184	243
Bonnyville	2,115	732	1,024	3,871	1,290	5,470	236
Jasper	873	411	1,129	2,413	804	3,742	215
Vermilion	656	1,173	540	2,369	789	3,879	204
Vegreville	192	1,295	1,510	2,997	999	5,276	189
Stettler	922	1,254	698	2,874	958	5,147	186
Strathmore	1,517	148	254	1,919	639	3,544	180
Westlock	472	1,437	481	2,390	796	4,532	176
High River	687	834	1,006	2,527	842	5,096	165
Olds	803	699	831	2,333	777	4,871	160
Wainwright	1,112	537	545	2,194	731	4,665	157
Cardston	122	119	1,388	1,629	543	3,497	155
Pincher Creek	350	601	434	1,385	461	3,800	121
Didsbury	670	71	400	1,141	380	3,184	119
Sylvan Lake	44	1,147	188	1,379	459	3,937	117
Hanna	170	650	219	1,039	346	3,017	115
Claresholm	270	162	416	848	282	3,382	84
Whitecourt	558	51	497	1,106	368	5,737	64
Beaumont	44	640	18	702	234	3,944	59
Coaldale	38	293	491	822	274	4,796	57
Innisfail	474	361	82	917	305	5,535	55
Barrhead	30	4	463	497	165	3,991	42
Devon	55	252	108	415	138	3,691	37
Grande Cache	8	0	212	220	73	3,590	20
Okotoks	0	0	0	0	0	5,214	0
High Level	0	0	0	0	0	3,004	0
TOTAL	365,428	549,163	531,375	1,445,966	481,988	1,436,702	335

Table 2.3

VALUE OF ALL BUILDING PERMITS (1985-1987) FOR ALBERTA COMMUNITIES WITH POPULATIONS BETWEEN 3,000 AND 6,000 PLUS CALGARY AND EDMONTON [1]
(1988 Dollars)

	Total Value of All Building Permits Issued					1986 Population	Value Per Capita
	1985	1986	1987	Total	Average		
	(Thousands)						
Banff	8,238	48,499	61,345	118,082	39,360	5,189	7,585
Canmore	6,737	8,498	16,816	32,051	10,683	4,182	2,555
Slave Lake	20,763	10,906	5,972	37,641	12,547	5,429	2,311
Stettler	13,202	3,507	11,023	27,732	9,244	5,147	1,796
Vermilion	2,946	2,816	14,410	20,172	6,724	3,879	1,733
Whitecourt	1,600	3,295	24,914	29,809	9,936	5,737	1,732
St. Paul	14,850	3,568	7,568	25,986	8,662	5,030	1,722
Claresholm	2,208	3,581	10,650	16,439	5,479	3,382	1,620
Drayton Valley	6,202	11,049	7,530	24,781	8,260	5,290	1,562
Waterton	136	250	128	514	171	119	1,437
Olds	13,673	2,415	3,185	19,273	6,424	4,871	1,319
Bonnyville	11,334	6,937	2,770	21,041	7,013	5,470	1,282
Cochrane	3,106	7,713	3,251	14,070	4,690	4,184	1,121
Ponoka	3,699	5,494	5,912	15,105	5,035	5,473	920
Calgary	497,775	585,829	669,269	1,752,873	584,291	636,104	919
Edmonton	585,735	656,472	513,950	1,756,157	585,385	653,979	895
Vegreville	3,684	5,548	4,778	14,010	4,670	5,276	885
Cardston	4,651	1,774	2,098	8,523	2,841	3,497	812
Strathmore	5,904	663	1,725	8,292	2,764	3,544	780
Westlock	2,136	5,410	3,041	10,587	3,529	4,532	779
Wainwright	2,673	3,787	3,957	10,417	3,472	4,665	744
Rocky Mountain	3,414	3,586	4,541	11,461	3,820	5,182	737
Beaumont	3,259	1,609	3,634	8,502	2,834	3,944	719
Innisfail	4,823	2,488	3,543	10,854	3,618	5,535	654
Coaldale	1,696	2,308	4,878	8,882	2,960	4,796	617
Didsbury	1,459	1,550	2,429	5,438	1,812	3,184	569
Devon	431	3,080	2,623	6,134	2,044	3,691	554
High River	2,029	3,215	2,796	8,040	2,680	5,096	526
Barrhead	1,081	1,320	2,968	5,369	1,789	3,991	448
Pincher Creek	1,411	2,496	1,103	5,010	1,670	3,800	439
Hanna	1,589	1,558	808	3,955	1,318	3,017	437
Jasper	1,220	737	1,386	3,343	1,114	3,742	298
Sylvan Lake	862	1,515	741	3,118	1,039	3,937	264
Grande Cache	424	222	645	1,291	430	3,590	120
Okotoks	164	0	1,677	1,841	613	5,214	118
High Level	0	0	0	0	0	3,004	0
TOTAL	1,235,114	1,403,615	1,408,064	4,046,793	1,348,931	1,436,702	939